

Claims

- [c1] 1.A portable dryer comprising:
- a housing with an opening at one end thereof;
 - a motor having a fan installed inside the housing;
 - a first heating element coupled to the motor;
 - a second heating element;
 - a third heating element coupled to the second heating element;
 - a switch for controlling operations of the portable dryer;
 - and
 - a power unit for supplying electric power;
- wherein the power unit is electrically disconnected from the motor and all of the heating elements when the switch is turned to an off position, the motor is electrically connected to the first heating element in series and then to the second heating element in parallel when the switch is turned to a first operation position, and the motor is electrically connected to both the second heating element and the third heating element in parallel and the first heating element is electrically disconnected from the power unit when the switch is turned to a second operation position.

- [c2] 2.The portable dryer of claim 1, wherein when the switch is turned to the first operation position, the third heating element is electrically disconnected from the power unit.
- [c3] 3.The portable dryer of claim 1, wherein the switch comprises a conductor and a plurality of connecting nodes, the conductor able to establish electrical connections among the plurality of connecting nodes so that the power unit is electrically disconnected from the motor and the heating elements, or electrically connected with the motor, the first heating element, and the second heating element, or electrically connected with the motor, the second heating element, and the third heating element.
- [c4] 4.The portable dryer of claim 3, wherein the conductor is rotatably installed to establish electrical connections among the plurality of connecting nodes.
- [c5] 5.The portable dryer of claim 3, wherein the conductor is shiftable to establish electrical connections among the plurality of connecting nodes.
- [c6] 6.The portable dryer of claim 3, wherein the switch is a push-button switch.
- [c7] 7.The portable dryer of claim 1 further comprising a transformer electrically connected to the power unit for

boosting an outputted voltage level of the power unit.

[c8] 8.The portable dryer of claim 1 further comprising an overload protection device electrically connected to the power unit for preventing damage to the portable dryer.

[c9] 9.The portable dryer of claim 1 wherein the heating elements are heating filaments.

[c10] 10.A portable dryer comprising:
a housing with an opening at one end thereof;
a motor having a fan installed inside the housing;
a first heating element coupled to the motor;
a second heating element;
a third heating element;
a switch for controlling operations of the portable dryer;
and
a power unit for supplying electric power;
wherein the power unit is electrically disconnected from the motor and all of the heating elements when the switch is turned to an off position, the motor is electrically connected to the first heating element in series and then to the second heating element in parallel when the switch is turned to a first operation position, and the motor is electrically connected to the third heating element in parallel and both the first heating element and the second heating element are electrically disconnected

from the power unit when the switch is turned to a second operation position.

- [c11] 11.The portable dryer of claim 10, wherein when the switch is turned to the first operation position, the third heating element is electrically disconnected from the power unit.
- [c12] 12.The portable dryer of claim 10, wherein the switch comprises a conductor and a plurality of connecting nodes, the conductor able to establish electrical connections among the plurality of connecting nodes so that the power unit is electrically disconnected from the motor and the heating elements, or electrically connected with the motor, the first heating element, and the second heating element, or electrically connected with both the motor and the third heating element.
- [c13] 13.The portable dryer of claim 12, wherein the conductor is rotatably installed to establish electrical connections among the plurality of connecting nodes.
- [c14] 14.The portable dryer of claim 12, wherein the conductor is shiftable to establish electrical connections among the plurality of connecting nodes.
- [c15] 15.The portable dryer of claim 12, wherein the switch is a push-button switch.

- [c16] 16.The portable dryer of claim 10 further comprising a transformer electrically connected to the power unit for boosting an outputted voltage level of the power unit.
- [c17] 17.The portable dryer of claim 10 further comprising an overload protection device electrically connected to the power unit for preventing damage to the portable dryer.
- [c18] 18.The portable dryer of claim 10 wherein the heating elements are heating filaments.